

REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed December 30, 2004. Prior to this Amendment, claims 29-37, 43-46, 48-55 and 61-63 were pending. Claims 43-46, 48-49, 51-55 and 61-63 are currently being canceled without prejudice to or disclaimer of the invention therein. Claims 31, 34 and 37 are being amended. New claims 94-101 are being added. Accordingly, claims 29-37, 50 and 94-101 remain for the Examiner's consideration.

The claim amendments and new claims are supported by the specification as originally filed, and the new claims are believed to correspond to the species elected below.

I. Election/Restriction

In the Office Action mailed December 30, 2004, the Examiner asserted that the claims "contain a plurality of disclosed patentably distinct species of a cleaning means, comprising:

- (a) a cleaning means attached to a base member and including a strip of flexible material,
- (b) a bead-shaped member,
- (c) a free-floating member."

The Examiner also asserted that the "election of an ultimate species of the cleaning mechanism is required for search purposes." However, the Examiner did not say which claims were associated with each species. Nevertheless, Applicants have assumed that claims 29-37 and 50 correspond to species (a); claims 43-46, 48, 61 and 62 correspond to species (b); and claims 49 and 51-55 correspond to species (c).

Applicants are currently electing species (a), and canceling the claims corresponding to species (b) and (c) without prejudice to or disclaimer of the invention therein. More specifically, Applicants are electing to prosecute claims 29-36 and 50, and are canceling claims 43-46, 48-49, 51-55 and 61-63. Applicants have also added claims 94-101, which are believed to correspond to elected species (a).

II. Comments Regarding Previously Submitted IDSs

Prior to filing an RCE on December 23, 2003, Applicants had submitted four separate Information Disclosure Statements (IDSs). A first IDS was filed on January 15, 2002; a second IDS was filed on October 8, 2002; a third IDS was filed on December 27, 2002; and a fourth IDS was filed on June 25, 2003. Applicants had received from the USPTO initialed PTO-1449 forms indicating consideration of three out of the four IDSs. However, Applicants have not yet received initialed PTO-1449 forms indicating the Examiner's consideration of the references in the second IDS (filed on October 8, 2002). Accordingly, Applicants filed the RCE with a copy of the IDS previously filed on October 8, 2002 (along with a copy of the return date stamped postcard indicating receipt of the IDS and its accompanying references, by the USPTO on October 15, 2002) and requested that the Examiner provide Applicants with initialed form PTO-1449s, indicating that the references listed therein have been considered.

- Applicants again request that the Examiner Provide an initialed form PTO-1449 indicating consideration of the references listed on the October 8, 2002 IDS.
- Applicants mailed in a fifth IDS on September 20, 2004.
- Applicants also electronically filed a sixth IDS on September 20, 2004.
- Applicants also electronically filed a seventh IDS on September 20, 2004.
- Applicants are also submitting an eight IDS herewith.
- Applicants respectfully request consideration of all of the references listed in the multiple IDSs submitted.

If the Examiner needs copies of any the above mentioned IDSs she is invited to call Applicants' undersigned representative.

III. Notification/Submission of Co-Pending Claims

Applicants are also submitting copies of the preliminary amendments that were filed in commonly assigned co-pending U.S. Patent Application Nos. 10/419,437 and 10/661,988, so that the Examiner is aware of related claims that are co-pending. Applicants request that the Examiner review these co-pending claims to determine whether there are any double patenting issues.

IV. Conclusion

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

No fee is believed due in connection with this paper. However, the Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: January 31, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

Inventor: Shek Fai Lau et al.

Appl. No.: 10/661,988

Confirm. No.: 9331

Filed: September 12, 2003

Title: Ion Emitting Air-Conditioning Devices with Electrode
Cleaning Features

PATENT APPLICATION

Art Unit: 1753

Examiner: Unknown

Docket No. SHPR-01361USE

CERTIFICATE OF MAILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being deposited in the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, Alexandria, VA 22313-1450, on the date shown below.

By: Linda Saunders
Linda Saunders

Dated: November 5, 2004

PRELIMINARY AMENDMENT UNDER 37 CFR §1.115

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Introductory Comments

Before examination on the merits, please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 12 of this paper.

Amendments to Claims

Please amend claims 1, 11, 18, 19, 32 and 33; and add new claims 34-39. All pending claims are shown below, including those that remain unchanged.

1. (Currently Amended): An air conditioner device, comprising:
 - a housing;
 - a first electrode, disposed in said housing;
 - a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then manually returned to a resting position within said housing;
 - a ~~base member attached to a bottom~~ near an end portion of said second electrode; and
 - an at least partially flexible cleaning member, attached to said ~~base member~~, for frictionally cleaning said first electrode when, after being removed from said housing, said second electrode is manually returned to the resting position within said housing.
2. (Original): The device of claim 1, wherein said first electrode comprises a wire-like emitter electrode.
3. (Original): The device of claim 2, wherein the second electrode comprises a collector electrode having significantly more surface area than said wire-like emitter electrode.
4. (Original): The device of claim 3, wherein said collector electrode is hollow.

5. (Original): The device of claim 1, further comprising a high voltage generator that provides a potential difference between said first and second electrodes when said second electrode is in the resting position within said housing.

6. (Original): The device of claim 1, wherein said at least partially flexible cleaning member is electrically non-conductive.

7. (Original): The device of claim 1, wherein a gap exists between said first electrode and said second electrode when said second electrode is within said housing, and wherein said at least partially flexible cleaning member extends beyond said second electrode sufficient to span said gap.

8. (Original): An air conditioner device, comprising:

a housing including an elongated channel and at least one vent that allows air to enter said channel;

an emitter electrode;

a collector electrode configured to rest within said channel, generally parallel to said emitter electrode;

a handle attached to an upper portion of said collector electrode that allows said collector electrode to be manually moved within said channel, while remaining generally parallel to said emitter electrode; and

an at least partially flexible cleaning member attached near a bottom portion of said collector electrode that frictionally cleans said emitter electrode when said collector electrode is manually moved within said channel.

9. (Original): The device of claim 8, wherein a gap exists between said emitter electrode and collector second electrode when said collector electrode is within said channel, and wherein said at least partially flexible cleaning member extends beyond said second electrode sufficient to span said gap.

10. (Original): The device of claim 8, wherein said at least partially flexible cleaning member is non-conductive.

11. (Currently Amended): An air conditioner device, comprising:

a housing;

a first electrode, disposed in said housing;

a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then manually returned to a resting position within said housing;

a base member attached to a bottom near an end portion of said second electrode; and

a non-rigid cleaning member, attached to said base member, to frictionally scrape debris from said first electrode when, after being removed from said housing, said second electrode is manually returned to the resting position within said housing.

12. (Original): The device of claim 11, wherein said first electrode comprises a wire-like emitter electrode.
13. (Original): The device of claim 12, wherein the second electrode comprises a collector electrode having significantly more surface area than said wire-like emitter electrode.
14. (Original): The device of claim 13, wherein said collector electrode is hollow.
15. (Original): The device of claim 11, further comprising a high voltage generator that provides a potential difference between said first and second electrodes, when said second electrode is in the resting position within said housing.
16. (Original): The device of claim 11, wherein said non-rigid cleaning member is electrically non-conductive.
17. (Original): The device of claim 11, wherein a gap exists between said first electrode and said second electrode when said second electrode is within said housing, and wherein said non-rigid cleaning member extends beyond said second electrode sufficient to span said gap.
18. (Currently Amended): An air conditioner device, comprising:
 - a housing including an elongated channel and at least one vent that allows air to enter said channel;
 - an emitter electrode;

a collector electrode configured to rest within said channel, generally parallel to said emitter electrode, said collector including a first end and a second end;

a handle attached ~~to an upper portion~~ near said first end of said collector electrode that allows said collector electrode to be manually moved within said channel, while remaining generally parallel to said emitter electrode; and

a non-rigid cleaning member attached near ~~a bottom portion~~ said second end of said collector electrode that frictionally cleans said emitter electrode when said collector electrode is manually moved within said channel.

19. (Currently Amended): The device of claim 18, wherein a gap exists between said emitter electrode and said collector ~~second~~ electrode when said collector electrode is within said housing, and wherein said non-rigid cleaning member extends beyond said second electrode sufficient to span said gap.

20. (Original): An air conditioner device, comprising:

a housing;

a first electrode, disposed in said housing;

a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then manually returned to a resting position within said housing; and

a cleaning member, attached to said second electrode, for frictionally cleaning said first electrode when, after being removed from said housing, said second electrode is manually returned to the resting position within said housing.

21. (Original): An air conditioner device, comprising:

a housing including an elongated channel and at least one vent that allows air to enter said channel;

an emitter electrode;

a collector electrode configured to rest within said channel, generally parallel to said emitter electrode;

a handle attached to an upper portion of said collector electrode that allows said collector electrode to be manually moved within said channel, while remaining generally parallel to said emitter electrode; and

a cleaning member attached to said collector electrode that frictionally cleans said emitter electrode when said collector electrode is manually moved within said channel, generally parallel to said emitter electrode.

22. (Original): An air conditioner device, comprising:

a housing;

a first electrode, disposed in said housing;

a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then manually returned to a resting position within said housing; and

a cleaning member, attached to said second electrode, for frictionally cleaning said first electrode when, after being removed from said housing, said second electrode is manually returned to the resting position within said housing.

23. (Original): The device of claim 22, wherein said first electrode comprises a wire-like emitter electrode.
24. (Original): The device of claim 23, wherein the second electrode comprises a collector electrode having significantly more surface area than said wire-like emitter electrode.
25. (Original): The device of claim 24, wherein said collector electrode is hollow.
26. (Original): The device of claim 22, further comprising a high voltage generator that provides a potential difference between said first and second electrodes when said second electrode is in the resting position within said housing.
27. (Original): The device of claim 22, wherein said cleaning member is electrically non-conductive.
28. (Original): The device of claim 22, wherein a gap exists between said first electrode and said second electrode when said second electrode is within said housing, and wherein said cleaning member extends beyond said second electrode sufficient to span said gap.
29. (Original): An air conditioner device, comprising:
a housing including an elongated channel and at least one vent that allows air to enter said channel;

an emitter electrode;

a collector electrode configured to rest within said channel; and

a cleaning member attached to said collector electrode that frictionally cleans said emitter electrode when said collector electrode is manually moved within said channel.

30. (Original): The device of claim 29, wherein a gap exists between said emitter electrode and collector second electrode when said collector electrode is within said channel, and wherein said cleaning member extends beyond said second electrode sufficient to span said gap.

31. (Original): The device of claim 29, wherein said cleaning member is non-conductive.

32. (Currently Amended): An air conditioner device, comprising:

a housing;

a first electrode, disposed in said housing;

a second electrode, removably disposed in said housing such that said second electrode can be manually removed from said housing and then manually returned to a resting position within said housing; and

a cleaning member, attached to said second electrode, to frictionally scrape debris from said first electrode when said second electrode is moved from said resting position.

33. (Currently Amended): An air conditioner device, comprising:

a housing;

an emitter electrode, disposed in said housing;

a collector electrode, removably disposed in said housing such that said collector electrode can be manually removed from said housing and then manually returned to a resting position within said housing;

a base member attached to a bottom portion of said collector electrode; and

a cleaning member, attached to said base member, to frictionally scrape debris from said ~~collector~~ emitter electrode when, after being removed from said housing, said collector electrode is manually returned to the resting position within said housing.

34. (New): An air conditioner device, comprising:

a housing;

an emitter electrode disposed in said housing;

a collector electrode removably disposed in said housing such that said collector electrode can be manually removed from said housing and then manually returned to said housing; and

a cleaning member associated with said collector electrode, for frictionally cleaning said emitter electrode when said collector electrode is manually removed from and returned to said housing.

35. (New): The device of claim 34, wherein said cleaning member moves relative to said emitter electrode when said collector electrodes is manually removed or returned to said housing, thereby causing said cleaning member to scrape against at least a portion of said emitter electrode to thereby frictionally clean said emitter electrode.

36. (New): The device of claim 34, further comprising a high voltage generator that provides a potential difference between said emitter and collector electrodes when said collector electrode is in said housing.

37. (New): The device of claim 34, wherein said cleaning member is electrically non-conductive.

38. (New): The device of claim 37, wherein said cleaning member is at least partially flexible.

39. (New): The device of claim 34, wherein a gap exists between said emitter electrode and said collector electrode when said collector electrode is within said housing, and wherein said cleaning member is at least as long as said gap such that the cleaning member will scrape against at least a portion of said emitter electrode when said second electrode is manually removed from or returned to said housing.

Remarks

Prior to this Preliminary Amendment, claims 1-33 were pending. Claims 1, 11, 18, 19, 32 and 33 are currently being amended. Claims 34-39 are presently being added, leaving claims 1-39 for the Examiner's consideration.

The Commissioner is authorized to charge any underpayment or credit any overpayment for any matter in connection with this amendment to Deposit Account No. 06-1325.

Respectfully submitted,

Date: November 5, 2004

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COPY

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

Inventors: Shek Fai Lau et al.

Appl. No.: 10/419,437

Confirm. No.: 1757

Filed: April 21, 2003

Title: Electrode Self-Cleaning Mechanism for Electro-Kinetic Air Transporter-Conditioner Devices

PATENT APPLICATION

Art Unit: 1731

Examiner: Dionne A. Walls

Customer No. 23910

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Jeffrey R. Kurin (Attorney Signature)
Jeffrey R. Kurin, Reg. No. 41,132
Signature Date: 3/23/04



PRELIMINARY AMENDMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Before examination on the merits, please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

Replacement Abstract is on page 8 of this paper

Amendments to the Claims

Please cancel claims 1-23 and add new claims 24-49, as shown below. All pending claims are reproduced below.

1. - 23. (Canceled)

24. (New) An apparatus for conditioning air, comprising:
a freestanding portable housing defining at least one air vent;
a first electrode array disposed in the housing, the first electrode array including at least one ion producing electrode;
a second electrode array disposed in the housing, the second electrode array including at least one collecting electrode;
a high voltage generator to provide a potential difference between the first electrode array and the second electrode array;
a user liftable member accessible from outside the housing; and
a cleaning device adapted to frictionally remove debris from the first electrode array when a user manually lifts the user liftable member in a vertical direction from outside the housing.

25. (New) The apparatus of claim 24, wherein the user liftable member is configured such that a user can grip the member with their fingers from outside the housing.

26. (New) The apparatus of claim 25, wherein the first electrode array includes a plurality of ion producing electrodes that are wire-like.

27. (New) The apparatus of claim 26, wherein the cleaning device includes a slit that corresponds to each of the wire-like ion producing electrodes, each of the slits sized to frictionally engage its corresponding one of the wire-like ion producing electrodes.

28. (New) The apparatus of claim 24, wherein the housing is vertically elongated.

29. (New) The apparatus of claim 24, wherein the high voltage generator includes a first output terminal and a second output terminal, the first output terminal providing a first voltage potential

to the first electrode array, and the second output terminal providing a second voltage potential to the second electrode array.

30. (New) The apparatus of claim 24, wherein the second electrode array is manually removable from the housing for cleaning.

31. (New) An apparatus for conditioning air, comprising:
a freestanding vertically elongated portable housing including at least one air vent;
a vertically elongated wire-like ion producing electrode within the housing;
a vertically elongated collecting electrode within the housing, the collecting electrode manually removable from the housing and manually returnable to the housing;
a high voltage generator to provide a potential difference between the ion producing electrode and the collecting electrode;
a user liftable member accessible from outside the housing; and
a cleaning device adapted to frictionally remove debris from the wire-like ion-producing electrode when a user manually lifts the user liftable member in a vertical direction from outside the housing.

32. (New) The apparatus of claim 31, wherein the user liftable member is configured such that a user can grip the member with their fingers from outside the housing.

33. (New) The apparatus of claim 31, wherein the cleaning device includes a slit that frictionally engages the wire-like ion producing electrode.

34. (New) The apparatus of claim 31, wherein the high voltage generator includes a first output terminal and a second output terminal, the first output terminal providing a first voltage potential to the wire-like ion emitting electrode, and the second output terminal providing a second voltage potential to the collecting electrode.

35. (New) An apparatus for conditioning air, comprising:
a freestanding portable housing defining at least one air vent;
a first electrode array disposed in the housing, the first electrode array including at least one ion producing electrode;

a second electrode array disposed in the housing, the second electrode array including at least one collecting electrode;

a high voltage generator to provide a potential difference between the first electrode array and the second electrode array;

a user liftable member accessible from outside the housing; and

a cleaning device that moves in cooperation with the user liftable member, the cleaning device adapted to frictionally remove debris from the first electrode array when a user manually moves the user liftable member from outside the housing.

36. (New) The apparatus of claim 35, wherein the user liftable member is configured such that a user can grip the member with their fingers from outside the housing.

37. (New) The apparatus of claim 36, wherein the user liftable member extends outward from an exterior of the housing.

38. (New) The apparatus of claim 35, wherein the user liftable member extends outward from an exterior of the housing.

39. (New) The apparatus of claim 35, wherein the first electrode array includes a plurality of ion producing electrodes that are wire-like.

40. (New) The apparatus of claim 39, wherein the cleaning device includes a slit that corresponds to each of the wire-like ion producing electrodes, each of the slits sized to frictionally engage its corresponding one of the wire-like ion producing electrodes.

41. (New) The apparatus of claim 35, wherein the housing is vertically elongated.

42. (New) The apparatus of claim 35, wherein the high voltage generator includes a first output terminal and a second output terminal, the first output terminal providing a first voltage potential to the first electrode array, and the second output terminal providing a second voltage potential to the second electrode array.

43. (New) The apparatus of claim 35, wherein the second electrode array is manually removable from the housing for cleaning.

44. (New) An apparatus for conditioning air, comprising:
a freestanding vertically elongated portable housing including at least one air vent;
a wire-like ion producing electrode within the housing;
a collecting electrode within the housing, the collecting electrode manually removable from the housing and manually returnable to the housing;
a high voltage generator to provide a potential difference between the ion producing electrode and the collecting electrode;
a user liftable member extending outward from an exterior of the housing; and
a cleaning device that moves in cooperation with the user liftable member, the cleaning device adapted to frictionally remove debris from the wire-like ion-producing electrode when a user manually moves the user liftable member from outside the housing.
45. (New) The apparatus of claim 44, wherein the user liftable member is configured such that a user can grip the member with their fingers while their fingers are outside the housing.
46. (New) The apparatus of claim 44, wherein the cleaning device includes a slit that frictionally engages the wire-like ion producing electrode.
47. (New) The apparatus of claim 44, wherein the high voltage generator includes a first output terminal and a second output terminal, the first output terminal providing a first voltage potential to the wire-like ion emitting electrode, and the second output terminal providing a second voltage potential to the collecting electrode.
48. (New) An apparatus for conditioning air, comprising:
a portable housing defining at least one air vent;
a first ion producing electrode;
a second collecting electrode;
a high voltage generator to provide a potential difference between the first electrode and the second electrode;
a user liftable member accessible from outside the housing; and
a cleaning device adapted to frictionally remove debris from the first electrode when a user manually lifts the user liftable member from outside the housing.

49. (New) An apparatus for conditioning air, comprising:
- a portable housing defining at least one air vent;
 - a first ion producing electrode;
 - a second collecting electrode; and
 - a high voltage generator to provide a potential difference between the first electrode and the second electrode;
 - a user liftable member accessible from outside the housing; and
 - a cleaning device that moves in cooperation with the user liftable member, the cleaning device adapted to frictionally remove debris from the first electrode when a user manually moves the user liftable member from outside the housing.

Remarks

Claims 1-23 were pending prior to this preliminary amendment. Claims 1-23 are being canceled without any prejudice or disclaimer. New claims 24-49 are being added, leaving claims 24-49 for examination. Applicants respectfully request examination of these claims.

Respectfully submitted,

Date: 3/23/04

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(substitute)

ABSTRACT

An apparatus for conditioning air includes a freestanding portable housing defining at least one air vent. A first electrode array is disposed in the housing, the first electrode array including at least one ion producing electrode. A second electrode array is also disposed in the housing, the second electrode array including at least one collecting electrode. A high voltage generator provides a potential difference between the first electrode array and the second electrode array. A user liftable member is accessible from outside the housing. A cleaning device moves in cooperation with the user liftable member. The cleaning device is adapted to frictionally remove debris from the first electrode array when a user manually moves the user liftable member from outside the housing.